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## Median Variants of Prototype Based Learning Vector Quantization

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DOI:  
[10.33612/diss.135377546](https://doi.org/10.33612/diss.135377546)

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*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2020

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*  
Nebel, D. (2020). *Median Variants of Prototype Based Learning Vector Quantization: Methods for Classification of General Proximity Data*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.135377546>

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## **Stellingen**

behorende bij het proefschrift

### **Median Variants of Prototype Based Learning Vector Quantization Methods for Classification in Case of General Proximity Data**

van

**David Nebel**

1. Precise knowledge of the properties of a given proximity measure is necessary for a good machine learning model.
2. Similarities are not necessarily inner products/kernels and vice versa.
3. Different proximity measures induce different neighbourhood relations between data objects. A respective mathematical analysis before neural network training helps to avoid pitfalls.
4. Pre-processing of proximity data may drastically change neighbourhood relations in an undesired manner.
5. Expectation Maximization is a very powerful optimization technique also for non-probabilistic optimization problems.
6. Median algorithms provide sparse and interpretable models, which satisfy at least a good lower bound for the classification accuracy.
7. A set of proximity measures is like a group of humans. If one proximity seems less helpful, a group of proximities can still benefit from this one.
8. Sometimes research is a strong fight between competing experts. However, it can be very beneficial for both fighters.
9. Bunt ist das Dasein und granatenstark. Volle Kanne Hoschis. (*Bill & Ted*)